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ABSTRACT

To determine whether children in public schools are performing poorly because they have never acquired effective study skills, an investigation was undertaken of the library study skills of 467 randomly selected students representing grades 5, 8, and 11 in the Escambia County (Florida) Public Schools. Scores from the Gullette-Hatfield Test of Library Study Skills (1975) were separated into three groups by gender, grade level, and the socioeconomic status of students. A three-way analysis of variance revealed significant differences for all three variables. These measures were also correlated with scores from the Florida State Student Assessment Tests, Parts I and II, and the Gates-MacGinitie Reading Tests, first edition. Results were significant enough to reflect predictive utility relative to the anticipated performance of other students in the population sampled. On the Gullette-Hatfield Test, females outperformed males, children of a higher socioeconomic status outperformed students of a lower socioeconomic status, and effective readers scored higher than poor readers. Proficiency measures of library study skills may serve as a predictor in screening children likely to need special assistance in the mastery of functional skills in reading and verbal communication. A 17-item bibliography is provided. (JL)

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INVESTIGATING LIBRARY STUDY SKILLS OF CHILDREN IN THE PUBLIC SCHOOLS

by

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Investigating Library Study Skills of Children in the Public Schools

Ronald C. Toifel and Wesley D. Davis

INTRODUCTION

For a number of years critics of public education have been pointing to declining test scores, student weaknesses in the basic skills, ever-expanding programs in compensatory education, and a general deterioration in the functional value of the high school diploma as evidence that the public schools are failing in their mission to educate the youth of this nation. Negative reactions to this general attitude have shown themselves in repeated failure of bond issues intended to support public education, parental flight to the private sector, growing support for the voucher system or tuition tax credits, and the competency or accountability movement. The latter in particular seems to be a clear statement that the public wants more for its money and has turned to its legislative representatives to insist upon it. A natural consequence has been increased pressure upon public education to produce --- a "better product," if you will; and the system may very well be better off for it, meaning that there clearly is room for improvement and if it takes this kind of pressure to produce it then well and good. Just how public education reacts to this external pressure, however, may in part determine its own destiny. Certainly one sensible way to react is to engage in research intended to answer the questions underlying the criticisms directed toward it. While this is a tedious and demanding task, it is indeed a necessary one.

The present study opens with the broad premise that one of the primary reasons why children in any system, the public schools in particular, are performing poorly is because they have never acquired effective study skills. Either they have not taken the time to master them, no one has cared enough to teach them, or both. Moreover, it is further contended that one good way to look at this is to focus specifically upon library study skills. Such skills are essential and basic, especially if the child is to move successfully through the academic experience toward the attainment of any one or more of a broad range of vocational goals. For a good many students, there appears to be fairly clear evidence (such as poor performance on the Reference Skills subtest of the 1977 California Achievement Tests) that the attainment of these skills has not occurred.

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Biggs (1980), in particular, reports that she has "agonized over the meager library skills of incoming college freshmen and urged more library instruction at the secondary school level." Glogoff (1979), Hernon (1975), and others have also seen the need to investigate and evaluate the attainment of these skills. But why wait until (that is, if and when) the student reaches the post-secondary level to begin exploring these questions? Certainly they should be raised much sooner, even into the elementary grades. It is for this reason in particular that the present study purports to look at some of the relevant questions at several different grade levels --- and in each instance with children in the public schools.

Basically, this study has a three-fold purpose. First, it is intended to investigate whether or not randomly selected male and female students perform at significantly different levels on a proficiency measure of library study skills[1] (Buros, 1978). Initially, this will be determined independently at grades 5, 8, and 11; it will then be determined collectively from composite scores for both groups. McCarthy (1953, 1954, 1971), Chen and Irwin (1946), Lewis (1936), Dowley (1960), and others have reported sex differences in language development, with females exceeding males from the age of the appearance of the first words. Thus, it may well be that these differences also evidence themselves in the acquisition of library study skills.

Second, it is further intended to investigate whether or not socio-economic status is reflected in significantly different library study skills proficiency scores at the above-noted grade levels. This will again be determined independently by grade and then collectively for the three composite groups. Eels, et al. (1951), Coleman (1940), Havighurst and Janke (1944), Templin (1957), Gough (1946), Hill and Giammatteo (1963), May (1967), and others have reported upon the effects of socio-economic status and achievement. The general consensus has been that cognitive ability and oral language proficiency are usually lower for children from low-status families than for children from high-status families.

Third, it is additionally intended to investigate whether or not proficiency in library study skills is significantly related to several other school-performance measures. Among these will be scores from the Communications portion of the Florida State Student Assessment Test, Part I (Basic Skills) and Part II (Functional Literacy), and the Vocabulary, Comprehension, and composite scores from the Gates-MacGinitie Reading Tests, First Edition. The assumption here is that proficiency in library study skills should be positively related to proficiency in reading and other communications skills.

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[1] Irene Gullette and Frances Hatfield, Test of Library Study Skills, published by the Larlin Corporation at Marietta, Georgia in 1975.

HYPOTHESES

In pursuit of the above purposes, a number of testable hypotheses may be set forth. These will be stated in the null form. Moreover, in each instance they will be tested at the .05 level of confidence.

1. No significant difference exists in the proficiency scores of male and female students on the Gullette-Hatfield Test of Library Study Skills.
2. No significant difference exists in the library study skills proficiency scores of students from families of high, medium, and low[2] socio-economic status.
3. Proficiency scores on the Test of Library Study Skills are not significantly related to performance on the Communications portion of the Florida State Student Assessment Test, Part I.
4. Proficiency scores on the Test of Library Study Skills are not significantly related to performance on the Communications portion of the Florida State Student Assessment Test, Part II.
5. Proficiency scores on the Test of Library Study Skills are not significantly related to the Vocabulary scores on the Gates-MacGinitie Reading Tests, First Edition.
6. Proficiency scores on the Test of Library Study Skills are not significantly related to the Comprehension scores on the Gates-MacGinitie Reading Tests, First Edition.
7. Proficiency scores on the Test of Library Study Skills are not significantly related to the composite scores on the Gates-MacGinitie Reading Tests, First Edition.

METHOD

This section of the present paper is subdivided into four parts: subjects, instruments, procedures, and design. Each has been treated separately in some detail.

Subjects

The subjects for this study consisted of 467 children randomly selected from the Escambia County (Florida) Public Schools. They were specifically chosen to represent grades 5, 8, and 11 (to conform with Florida's State Assessment program). It was intended that at least 150 students would participate voluntarily from each grade level. While this was the case, it should be noted that they were encouraged to do so by their respective homeroom teachers. In each instance the response was excellent, with 152 participating at grade 5, 156 at grade 8, and 159 at grade 11. Initially only 160 students were selected (without replacement) at each grade level; hence, it was not necessary to select a second time.

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[2] These rankings were determined from 1980 Census data. Students were grouped according to information which they provided relative to family income.

The randomization process utilized in this study consisted of two steps. First, alphabetical student rosters for grades 5, 8, and 11 were generated at the Data Center[3]. These rosters identified each student by name, locator number, and school. Second, a random numbers table was employed to select members of the sample at each grade level. This involved reading across the table and matching the random number against the last four digits of the student's locator number. When a given number was not found on the student roster, it was disregarded and the next number in the table was then considered. This process was repeated until the requirements of the samples had been satisfied.

Instruments

The Gulliette-Hatfield Test of Library Study Skills was utilized as the primary assessment instrument in this study. It consists of levels I, II, and III; and it covers grades 2-12. There are 44 items at the lower level, which is appropriate to students in elementary school, and 50 items at the two upper levels, which are appropriate to students in middle school and high school, respectively. While it is not a timed test, administration is recommended for one class period or about fifty minutes. Verbal instructions are minimal, and students work independently at their own pace. During the present study no student took longer than forty-five minutes to complete the test, and some finished in as brief a time as twenty minutes. Student responses are recorded on a machine scorable answer sheet, and raw scores are reported as the number of correct response choices. There is no penalty for guessing.

Additional instruments utilized in this study consisted of the Florida State Student Assessment Test (SSAT), Parts I and II, and the Gates-MacGinitie Reading Tests, First Edition. From the latter, scores were obtained for both the Vocabulary and Comprehension portions; and these were then summed to form a composite score. Standard administration procedures were employed in the application of each of these instruments. Moreover, the results obtained were recorded in terms of raw scores.

Procedures

The procedural phase of this study consisted of several parts. Initially, the proposal was submitted to the Research Committee for review and approval. Once this had been accomplished, it was then necessary to contact the individual school principals to gain their cooperation and support. Next came the sample selection process. After the students in each sample had been identified, the schools involved were thereby known. Arrangements were then made to meet with the respective faculties to gain their support and assistance in communicating with the selected students relative to their partic-

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[3] The Escambia Data Processing Center is a service unit of the Escambia County Public Schools.

ipation as a group on a voluntary basis. Using a group procedure and treating the entire sample as one "class" precluded the necessity of gaining parental approval for each individual student, a time-consuming and often cumbersome process. Moreover, the fact that it was an "in school" procedure allowed certain freedom and flexibility often not available in other settings.

Next came the actual testing. Arrangements were made in advance, through their respective teachers, for the selected students to meet in the school cafeteria at a specified time and date. They were tested as a group; the necessary materials were distributed with the assistance of a member of the Evaluation Services staff; and testing progressed according to standard procedures. Each student received a test booklet, a machine scorable answer sheet, and a number 2 pencil. A subportion of the answer sheet was used for reporting limited personal information, including the rating of family income (referred to in the Hypotheses section above). Students who completed the testing early were requested to remain quietly seated until all participants were finished. There were no unusual or disruptive incidents; and very few students (only 13) who were randomly selected failed to participate.

Additional testing was not necessary at this time as the other data (viz., SSAT and Gates) incorporated into this study had already been collected and were available as a part of program evaluation records in the Evaluation Services office. Consequently, it was only necessary to extract and organize these data for each student in a form amenable to the analyses noted below.

Design

The statistical techniques employed in this study included an independent t-test of group mean differences, the analysis of variance, Duncan's multiple range test, and Pearson product-moment correlation. The manner in which each of these was utilized has been set forth below.

Initially, a t-test was used to determine the significance of sex-related performance differences on the Test of Library Study Skills. This was first determined independently at grades 5, 8, and 11; it was then determined collectively from the composite scores for both groups.

A further determination was made, via the analysis of variance, relative to the student's socio-economic status (viz., family income) as reflected in significantly different library study skills proficiency scores at the above-noted grade levels. This was again determined independently by grade and then collectively for the three composite groups. In each instance Duncan's multiple range test was applied in conjuntion with these analyses.

Lastly, it was additionally determined through Pearson correlations whether student proficiency in library study skills is significantly related to several other school-performance measures. These specific mea-

sures have been cited previously in the text of this paper (under Instruments).

The data generated in this study were analyzed with computer assistance from the Data Center and the University of Florida at Gainesville. The latter employed the Statistical Analysis System (SAS) available from Cary, North Carolina. In each of these analyses, statistical significance was decided relative to the .05 level of confidence. The results obtained have been reported below in both descriptive and tabular form as deemed appropriate.

RESULTS

The findings of this study are reported principally in terms of the hypotheses set forth earlier in this paper. Where deemed appropriate, they have been restated; and the statistical techniques used to test them have been cited.

Hypothesis one stated that "no significant difference exists in the proficiency scores of male and female students on the Gullette-Hatfield Test of Library Study Skills." An alternative hypothesis would be that a significant difference does exist, and such was predicted on the basis of earlier findings of a sex difference in language development reported by McCarthy, Chen and Irwin, Lewis, Dowley, and others cited previously in this paper. It was specifically anticipated that females would perform at a higher level, both when sorted by grade and for the two groups as a whole. Utilizing a t-test of group mean differences, the data in Table I reveal that this prediction was sustained at a significant level for the group as a whole but only at grade 8 when tested by grade level. Differences at grades 5 and 11 were not significant at the .05 level of confidence. As is apparent from Table I, however, females out-performed males at all levels. While this likely does not reflect a true gender difference, it probably does signal important differences in socialization patterns relative to the acquisition of library study skills.

Table I. T-tests of Sex-related Differences by Grade and Total Group

Grade	Sex	n	Mean	Std Dev	t	Prob > |t|
5	F	74	27.8649	8.3622	1.6968	.0918
	M	78	25.5769	8.2580		
8	F	63	27.4444	7.8489	2.2436	.0263*
	M	93	24.2258	9.3740		
11	F	72	33.0972	7.1309	0.7976	.4264
	M	87	32.0115	9.5546		
Total Group	F	209	29.5407	8.1836	2.7057	.0071**
	M	258	27.2597	9.7093		

*Significant beyond the .05 level of confidence.
**Significant beyond the .01 level of confidence.

Hypothesis two stated that "no significant difference exists in the library study skills proficiency scores of students from families of high, medium, and low socio-economic status." This hypothesis was challenged and initially tested by grade and total group via the one-way analysis of variance (viz., a general linear models procedure), then later by sex, grade, and socio-economic status via a three-way analysis of variance. The data in Table II reveal significant differences in library study skills proficiency scores for students of different socio-economic status at grades 5, 11, and for the total group, but not at grade 8. Moreover, Duncan's multiple range test reveals that the magnitude of the group means ranged from high to low and were, in every instance, in the predicted direction relative to socio-economic status.

Table II. One-way F-test of Proficiency Score Mean Differences by Grade and Total Group

Grade	SES[1]	n	Mean	F	Prob > F
5	H	52	30.7115	26.15	.0001*
	M	48	28.5833		
	L	52	20.9231		
8	H	56	27.1786	1.68	.1893
	M	43	25.1860		
	L	57	24.1579		
11	H	54	37.7963	19.43	.0001*
	M	52	29.9808		
	L	53	29.5849		
Total Group	H	162	31.2342	17.57	.0001*
	M	143	28.1553		
	L	162	25.2635		

[1] Socio-economic status of family (high, medium, low).

* Significant beyond the .0001 level of confidence.

The data in Table III reveal significant differences in library study skills proficiency scores when sorted by sex, grade, and socio-economic status. This would suggest rather clearly that all three variables are significantly affecting the rate of acquisition of library study skills proficiency. As noted earlier, however (viz., Tables I and II), gender differences appear to have less impact in older adolescents; while socio-economic factors seem to be less influencial during early adolescence. The latter may be accounted for by a greater sensitivity to and striving for equality with peers at this age.

Table III. Three-way F-test of Proficiency Score Mean Differences When Sorted by Sex, Grade, and Socio-economic Status

Sex	Grade	SES	n	Mean	F	Prob > F
F M	5 8 11	H M L	467	28.2805	22.98	.0001

Hypotheses three through seven refer to the relationship between proficiency scores on the Test of Library Study Skills and several other school-performance measures. Pearson product-moment correlations were computed and have been reported in Table IV with an accompanying legend.

Table IV. Correlations Between Variables T1 and T2-T6

Variables		T2	T3	T4	T5	T6
T1	Pearson r	.2948	.4803	.6048	.6087	.6393
	Prob>|r|	.0001*	.0001*	.0001*	.0001*	.0001*
	n	419	144	146	146	146

*Significant beyond the .0001 level of confidence.

Legend:

T1=Gullette-Hatfield Test of Library Study Skills
T2=Florida State Student Assessment Test, Part I (Communications)
T3=Florida State Student Assessment Test, Part II (Communications)
T4=Gates-MacGinitie Reading Tests, 1st edition (Vocabulary)
T5=Gates-MacGinitie Reading Tests, 1st edition (Comprehension)
T6=Gates-MacGinitie Reading Tests, 1st edition (Composite score)

As revealed in Table IV, all correlation coefficients are significant beyond the .0001 level of confidence. While this does not imply a causal relationship, it does indicate that student proficiency in library study skills tend to vary together with proficiency measures on the other instruments cited. Since these instruments are widely used in Escambia County (Florida), as well as throughout the state, the strength of at least four of these relationships (T3-T6) may have predictive utility relative to the anticipated performance of other students in the population. This would seem to be especially meaningful for at least two reasons: 1) successful mastery of T3 is again soon to become (in 1983) a graduation requirement for all Florida seniors, and 2) T4-T6 are widely used in a variety of ways as screening instruments for Compensatory Education ($60 million in Florida alone over the past three years) and special reading programs throughout the country.

CONCLUSIONS

The findings of this study afford several conclusions. First, females out-perform males on a proficiency measure of library study skills at critical points in their academic progress. This seems to be related to verbal proficiency and is probably due to differences in socialization patterns. Second, children from families of higher socio-economic status consistently perform more proficiently on a measure of library study skills than do those from families of lower status. Motivational factors, access to related materials, etc. are assumed to be relevant. Third, children who are more effective readers tend to score higher on a proficiency measure of library study skills than do those who are poor readers. This is

true for both reading vocabulary and reading comprehension. In this same respect, it would also be of interest to correlate library check-out rates and library study skills proficiency. Fourth, proficiency in library study skills may serve as a helpful predictor in screening those children who are likely to need special assistance in the mastery of functional skills in reading and verbal communication. In an era of competency testing and accountability, this would seem to be especially important.

BIBLIOGRAPHY

1. Biggs, Mary. A proposal for course-related library instruction. School Library Journal, January 1980, 26 (5), 34-37.
2. Buros, Oscar K. The eighth mental measurements yearbook (Vol. II). New Jersey: The Gryphon Press, 1978.
3. Chen, H. P., & Irwin, O. C. Infant speech, vowel and consonant types. Journal of Speech Disorders, 1946, 11, 27-29.
4. Coleman, Hubert A. The relationship of socio-economic status to the performance of junior high school students. Journal of Experimental Education, September 1940, 9, 61-63
5. Dowley, Edith. Doing research in a nursery school. Journal of Nursery Education, 1960, 16, 22-25
6. Eels, Kenneth; Davis, Allison; Havighurst, R. J.; Herrick, Virgil E.; & Tyler, Ralph. Intelligence and cultural differences. Chicago: University of Chicago Press, 1951.
7. Glogoff, Stuart. Using statistical tests to evaluate library instruction sessions. The Journal of Academic Librarianship, January 1979, 4 (6), 438-442.
8. Gough, Harrison G. The relationship of socio-economic status to personality inventory and achievement test scores. Journal of Educational Psychology, December 1946, 37, 527-540
9. Havighurst, Robert, & Janke, L. L. Relations between ability and social status in a midwestern community, I: Ten-year-old children. Journal of Educational Psychology, September 1944, 35, 357-368.
10. Hernon, Peter. Library lectures and their evaluation: A survey. The Journal of Academic Librarianship, July 1975, 1, 14-18.
11. Hill, Edwin H., & Giammatteo, Michael C. Social economic status and its relationship to school achievement in the elementary school. Elementary English, March 1963, 40, 265-270.
12. Lewis, M. M. Infant speech: A study of the beginnings of language. New York: Harcourt, Brace & World, Inc., 1936.
13. May, Frank B. Teaching language as communication to children. Ohio: Charles E. Merrill Books, Inc., 1967.
14. McCarthy, Dorothea. Language development. In Aaron Bar-Adon & Werner F. Leopold (Eds.), Child language: A book of readings. New Jersey: Prentice-Hall, Inc., 1971, 104-115.
15. McCarthy, Dorothea. Language development in children. In Leonard Carmichael (Ed.), A manual of child psychology. New York: John Wiley & Sons, Inc., 1954, 492-630.
16. McCarthy, Dorothea. Some possible explanations of sex differences in language development and disorders. Journal of Psychology, January, 1953, 35, 155-160.
17. Templin, Mildred C. Certain language skills in children: Their development and interrelationships. Minneapolis: University of Minnesota Press, 1957.